

showing the duct and outlet in one of the small hair-bearing chitinous plates (*cs.*) of the cuticle.

Fig. 26. Dark-staining net-like structure contained in a delicate sac near the duct of some, at least, of the dermal glands, $\times 600$.

Fig. 27. Median sagittal section through the anterior portion of the pharynx, showing the mode in which the distensor muscles (*m/p.*) are attached to the roof (*pr.*) of the pharynx by numerous tendons. The depressor muscles (*mop.*) of the roof of the pharynx are cut across and appear circular in transverse section. The anterior end of the pharyngeal nerve (*nph.*) is seen, with its branches to the respective muscles.

Fig. 28. Sagittal section through the testicular mass on one side of the body of the σ , $\times 200$. The section is cut in the plane where the vas deferens (*vd.*) emerges. The true testicular portions are composed of sperm-mother-cells (*sm.*), some of which are discharging their contents into the portion (*tvs.*) which functions as a vesicula seminalis. One of the walls of the latero-posterior portion of the ventriculus is seen to the right, containing dark-staining food-droplets within its cells. Between the ventriculus and the testicular mass is seen the gland of unknown function (*gu.*).

3. On the Nursing-habits of two South-American Frogs.

By G. A. BOULENGER, F.R.S.

[Received February 28, 1895.]

(Plate X.)

At a recent Meeting of this Society a most interesting communication was read from Dr. E. A. Göldi, in which an account was given of the breeding-habits of *Hyla goeldii*, Blgr., as observed by himself and his cousin Mr. Andreas Göldi in the Serra dos Orgãos, Prov. Rio de Janeiro¹. I have since received from the latter gentleman two specimens of this rare tree-frog, one of which is a female with the eggs on her back. This specimen I have brought for exhibition before the Society, and I wish to offer a few remarks concerning it, together with a figure.

The frog was captured on the 5th of January of the present year at Colonia Alpina, Santa Rita de Theresopolis, and measures 42 millim. from snout to vent. The whole surface of the back is occupied by one layer of 26 large pale yellow eggs, 4 millim. in diameter, on which the embryos, coiled round the enormous vitelline mass, can be distinguished with the naked eye. The skin of the back is expanded in a feebly reverted fold which borders and supports the egg-mass on the sides, thus suggesting an incipient stage of the dorsal pouch of the allied genus *Nototrema*.

The embryos are much elongate in shape, colourless, with a large flat head, in which the eyes are distinguishable as two black points; no traces of gills are to be seen. One of these eggs is represented, enlarged, on the drawing (Plate X.), together with the young in the condition it leaves the mother.

Since the publication, in 1886, of my synopsis of the various modes by which tailless Batrachians protect their offspring, several new types have come to my knowledge, among which that offered

¹ See above, pp. 94-96.

by *Dendrobates*, as observed by Wyman, Kappler, and H. S. Smith, is not the least remarkable¹. This Batrachian was found to carry its tadpoles on its back, fixed by their buccal suckers, with the object, it is believed, of transporting them from pool to pool. Precisely the same mode of parental care is shown by a frog of the family Ranidæ, *Phylllobates trinitatis*, Garm., a native of Trinidad and Venezuela. A specimen from Venezuela, recently received at the Natural History Museum, is preserved in spirit with the tadpoles sticking to the back in the manner described in the case of *Dendrobates*.

The sex of the parent which transports the larvæ had not been ascertained in the case of *Dendrobates*. It is therefore of importance to state that in the present instance the feat is performed by the male (as figured on Plate X.), which is distinguished by an internal vocal sac. It was further desirable to ascertain whether any buccal peculiarities existed in the larvæ in connection with their habits, and as the specimens, six in number, are perfectly preserved, this examination offered no difficulty. But, as in the case investigated by Wyman, no peculiarities could be detected: the tadpoles are perfectly normal, of the Ranoid type. There are two series of labial teeth above and three beneath the black horny beak, the lower outer series rudimentary; the inner upper series is widely interrupted mesially, the inner lower very narrowly; the lip is bordered by a series of papillæ which is widely interrupted in the middle anteriorly. The spiraculum is sinistral and the anus dextral. The tail is about twice as long as the body.

EXPLANATION OF PLATE X.

- Figs. 1, 1a. *Hyla goeldii*, Blgr., female carrying the eggs.
 2. An egg from the above specimen, enlarged.
 3. Young, on leaving the mother.
 4. *Phylllobates trinitatis*, Garm., male carrying the larvæ.
 5. Mouth of the larval *Phylllobates trinitatis*, enlarged.

March 19, 1895.

Sir W. H. FLOWER, K.C.B., LL.D., F.R.S., President, in the Chair.

The following papers were read:—

1. Preliminary Account of new Species of Earthworms belonging to the Hamburg Museum. By FRANK E. BEDDARD, F.R.S.

[Received February 11, 1895.]

The collection of "Terricolæ" made by Dr. Michaelsen in South America is in some ways richer than that of the "Limicolæ"².

¹ Cf. Boulenger, Ann. & Mag. N. H. ser. 6, i. 1888, p. 454, & ii. 1888, p. 122.

² See Ann. & Mag. N. H. ser. 6, xiii. p. 205: "Preliminary Notice of South-American *Tubificidæ* collected by Dr. Michaelsen, including the Description of a Branchiate Form. By Frank E. Beddard, M.A., F.R.S."